

Application No. 10/758,325
Amendment dated September 29, 2008
Reply to Office Action of May 1, 2008

Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1. (Currently amended) A kit for use in conducting crystallization experiments, comprising a pre-filled crystallization plate having a plurality of wells, each well of said plurality of wells being open at an upper end thereof for receiving a crystallization solution, a first level of seal including individual seals recessed within each well at a distance below the upper end thereof for temporarily hermetically sealing the crystallization solution in the wells to allow safe transportation and handling of the pre-filled crystallization plate prior to utilization, and a second level of seal including a sealing surface on said plate above said first level of seal for allowing sealing of said wells above said first level of seal in order to allow vapor diffusion to occur after the individual seals of the first level of seals have been broken, the individual seals of the first level of seals extending across the wells to provide a fluid barrier which retains the crystallization solution in said wells and prevents contact of the crystallization solution with a crystallization surface on which the crystallization is to be carried out.

2. (Original) A kit as defined in claim 1, wherein said second level of seal further includes cover means sealingly engageable with said sealing surface.

3. (Original) A kit as defined in claim 2, wherein said cover means include a plurality of individual cover members for separately sealingly covering said wells.

4. (Original) A kit as defined in claim 1, wherein the individual seals are individually applied on respective portion cups to provide a plurality of hermetically sealed capsules containing the crystallization solution, and wherein said capsules are individually placed within said wells.

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5. (Original) A kit as defined in claim 4, wherein said portion cups are sufficiently transparent for allowing examination and monitoring of crystal growth.

6. (Original) A kit as defined in claim 4, wherein said individual seals are made of a pierceable material for allowing permanent holes to be defined therein.

7. (Original) A kit as defined in claim 1, wherein each of said individual seals include a foil heat sealed in an associated well of said plurality of wells at a distance from a bottom thereof.

8. (Original) A kit as defined in claim 7, wherein said foil is made of a pierceable material for allowing permanent holes of various dimensions to be defined therein to control the rate at which vapor diffusion will occur.

9. (Original) A kit as defined in claim 1, wherein said pre-filled crystallization plate is a sitting-drop crystallization plate, said wells including respective crystallization surfaces at a distance from the bottom thereof, said crystallization surfaces being isolated from the crystallization solution during transport by said individual seals.

10. (Original) A kit as defined in claim 8, further including a reference for providing a visual indication where to pierce said individual seals for allowing examination and monitoring of crystal growth.

11. (Currently amended) A kit for use in conducting crystallization experiments, the kit comprising at least one crystallization solution encapsulated in a plurality of individual capsules, and at least one crystallization plate including a plurality of wells, ~~adapted to be loaded with said capsules~~ being individually received in said wells.

12. (Original) A kit as defined in claim 11, wherein said capsules are pierceable for allowing holes of different sizes to be permanently defined in the capsules, the size of

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each hole determining the rate at which vapor diffusion will occur when starting crystallization experiment.

13. (Original) A kit as defined in claim 11, wherein each of said capsules includes a portion cup filled with said crystallization solution and closed by a pierceable seal.

14. (Original) A kit as defined in claim 13, wherein said seal is provided in the form of a sheet material heat sealed to said reservoir to close a top open end thereof.

15. (Currently amended) A kit for use in growing crystals by vapor diffusion, comprising a crystallization plate defining a plurality of wells pre-filled with a crystallization solution, at least one seal for sealing said wells with said crystallization solution contained therein, wherein said seal is made of a pierceable material for allowing individual holes to be defined in the pierceable material in order to permit vapor diffusion to occur separately for each of said wells, and wherein said seal extends across each of said wells to prevent the crystallization solution from contacting a crystallization surface associated with each of the wells.

16. (Original) A kit as defined in claim 15, further including a plurality of references to provide visual indication where the seal is to be pierced in relation to the wells.

17. (Original) A kit as defined in claim 15, wherein said at least one pierceable seal is heat sealed to a top surface of said plate over said wells.

18. (Original) A kit as defined in claim 15, wherein said seal is provided in the form of individual pierceable foils recessed in respective ones of said wells.

19. (Original) A kit as defined in claim 18, wherein said pierceable foils are heat seal to respective portion cups filled with the crystallization solution and fitted within the wells.

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20. (Currently amended) A method of making a pre-filled crystallization plate, comprising the steps of: providing a crystallization solution and a crystallization plate having a plurality of wells, ~~and encapsulating the crystallization solution in a plurality of capsules, received in said wells and loading said capsules with the crystallization solution contained therein in said wells.~~

21. (Original) A method as defined in claim 20, wherein the step of encapsulating the crystallization solution includes the steps of molding the capsules, filling the capsules with the crystallization solution and then sealing each of the capsules with a pierceable sheet material.

22. (Cancelled)

23. (Original) A method as defined in claim 21, comprising the step of molding the capsules directly in the wells of the crystallization plate.

24. (Original) A method as defined in claim 23, wherein the crystallization plate and the capsules are molded simultaneously by injecting molten thermo-plastic material into a microplate formed cavity mold with incorporated cavities for encapsulation.

25. (Original) A method as defined in claim 21, wherein said pierceable sheet material is heat sealed to each of said capsules.

26. (Original) A method as defined in claim 25, wherein said pierceable material is provided in the form of individual foils for allowing permanent holes to be punctured in the foils.

27. (Cancelled)

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28. (Cancelled)

29. (Currently amended) A method of making a pre-filled crystallization plate, comprising the steps of: providing a crystallization plate having a plurality of wells, dispensing a crystallization solution in the wells, ~~and~~ individually sealing the crystallization solution in the wells by heat sealing a pierceable foil over the crystallization solution in the wells, and providing individual crystallization surfaces adapted to be sealingly associated with the wells, separately from the pierceable foil, to conduct individual crystallization experiments in the wells once the pierceable foils have been pierced.

30. to 39. (Cancelled)